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SANTA BARBARA, CAL.

MEMORIAL LABORATORY
AND CLINIC. REPORT

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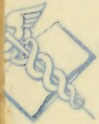
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REPORT

of the

Memorial Laboratory and Clinic

for the

STUDY AND TREATMENT OF NEPHRITIS, GOUT AND DIABETES

NATHANIEL BOWDITCH POTTER, M. D.
Director

✓ COTTAGE HOSPITAL
SANTA BARBARA, CALIFORNIA



A REPORT

upon the Organization and Development of the
MEMORIAL LABORATORY AND CLINIC
for the

STUDY AND TREATMENT OF NEPHRITIS, GOUT
AND DIABETES

at the New York City Hospital
and its Transfer to the
Cottage Hospital,
Santa Barbara
California.

STAFF:

NATHANIEL BOWDITCH POTTER, M.D., Director

Until 1918 Professor of Clinical Medicine, Columbia University (College of Physicians and Surgeons); Visiting Physician to the New York City Hospital; Chief of Medical Division of St. Mark's Hospital; Consulting Physician to the French Hospital, to the New York Throat, Nose and Lung Hospital, and to the Central Islip State Hospital.

CLINIC:

Chief of Clinic..... Hilmar O. Koefod, M.D.
 Assistants:..... { John J. O'Donnell, M.D.*
 { Raymond T. Francis, M.D.
 Research Worker..... Inez Smith, M.A.

LABORATORIES:

Chemist.....Elisabetta C. Pennell, M.S.
Assistant.....Evelyn M. Warren
Pathologist and Bacteriologist (part time) Adelle Snyder

DIET KITCHEN:

Dietitian-Nurse.....Bertha C. Conboy
Ass't. Dietitian-Nurse.....A. Blanche Catudal

ADMINISTRATIVE DEPARTMENT:

Secretary and Accountant.....Laura E. Shumard
Chartist and Ass't. Acct. (part time).....Julia A. Haynes
Historian and Ass't. Secy. (part time)....Adelaide E. Flint
Librarian and Abstractor.....Felicia Robbins, M.D.

ADVISORY COUNCIL:

Theobald Smith, M.D., LL.D.....Princeton University
Henry S. Pritchett, LL.D.....The Carnegie Foundation
Donald D. Van Slyke, M.D.....Rockefeller Institute Hospital
Alfred E. Cohn, M.D.....Rockefeller Institute Hospital
Edgar Stillman, M.D.....Rockefeller Institute Hospital
Consulting Psychopathologist.....August Hoch, M.D.

* Resigned June 1, 1918, to assume charge of the practices of two physicians of Los Angeles, recently called to the Medical Officers' Reserve Corps.

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REPORT UPON THE ORGANIZATION AND
DEVELOPMENT OF THE MEMORIAL
LABORATORY AND CLINIC FOR THE
STUDY AND TREATMENT OF NEPHRITIS,
GOUT AND DIABETES AT THE NEW YORK
CITY HOSPITAL AND ITS TRANSFER TO
THE COTTAGE HOSPITAL, SANTA BAR-
BARA, CALIFORNIA.

Some twenty months ago the generous response of a friend enabled me to equip and organize, at the New York City Hospital, a very complete laboratory (with chemist, assistant chemist, clinical assistant and dietitians) for the accurate and intensive study and treatment of patients suffering from Nephritis, Gout and Diabetes. The following quotation admirably defines the purpose of such modern laboratory clinics:

"The body, in reality, is a great complex chemical laboratory in which nature is constantly destroying old and building up new tissues from the moment of birth to the instant of death. These changes are essentially chemical and can be more or less perfectly studied and measured. Disease, from whatever cause, alters the chemistry of the body; many diseases are

essentially chemical in both cause and result. It is impossible to correctly interpret any disease without studying the chemistry of the body. Some of the most important diseases affecting man are purely chemical in character; no other line of investigation affords information as to their nature. The general phenomena of building up the body and disposing of the worn-out materials is known as *Metabolism*. . . . Up to not five or ten years ago, there were no practical, scientific methods known for the study of the chemistry of the body; hence neither hospitals nor physicians were equipped for such work. It was, and still is, very largely customary to make a few simple, perfunctory chemical tests either in the physician's office or in the crude hospital laboratory and to attempt to interpret disease phenomena from these limited and unreliable data. . . . At the present time, with not more than half a dozen exceptions, American hospitals have made no special provision for the study of these important diseases. That is to say, it is nearly everywhere customary to treat such patients in the home, where the treatment must be largely empirical and unscientific; or in the general wards and departments of hospitals, where conditions for accurate

observations and trained assistance do not exist."^x

Commissioner Kingsbury and Deputy Commissioner Wright, of the Department of Public Charities of New York City, under the late Mayor Mitchell, promptly recognized the need of such work and its value to the City Hospital, and with the help of the Hospital Superintendent, Dr. Bacon, and the generous co-operation of the Medical Board, the Department equipped a ward of eleven beds, with a diet kitchen and a laboratory adjoining. The incidence of an epidemic of infantile paralysis, in the latter half of 1916, and the shortage of supplies and equipment, both then and in the early months of 1917, unavoidably delayed our progress; but the work was well organized and in efficient working order by the spring of 1917. Aided by the stimulating interest and invaluable assistance of a small group of specialists selected by the Director as an Advisory Council, viz., Professor Theobald Smith of Princeton University, Dr. Donald Van Slyke, Alfred E. Cohn and Edgar Stillman, of the Rockefeller Institute Hospital, and Dr. Henry S. Pritchett of the Carnegie Foundation, the plan of investi-

^xFrom Dr. J. R. William's Report to the Board of Directors of the Hahnemann Hospital, Rochester, N. Y.

gation and of treatment was outlined for the three above mentioned classes of patients. Through the courtesy of the authorities of the Rockefeller Institute Hospital both the chemist and dietitian received a careful preparatory training at that institution. Appeals for extending the clinical scope of the work, so as to insure a proper development of the laboratory, met with an immediate and very generous response from the Carnegie Corporation, and other contributors. The reports of clinical assistant, dietitian and chemist are submitted below.

While the laboratory, ward and diet kitchen were being prepared for occupancy, a thorough search was made for patients suffering from the above named diseases who had been discharged from the New York City Hospital during the previous year. The results of this investigation, which were submitted to the Charities Department, furnished convincing evidence of the need of a far more intimate connection between the patients and the hospital, both during and subsequent to their treatment, if any of the advantages derived from residence in the hospital were to be continued after their discharge. It also thoroughly confirmed the necessity for such an organized unit in connection with any

institution caring for chronic cases, and encouraged the hope for important results under the favorable conditions for such work at Santa Barbara.

The outbreak of the war soon began to disband the organization and it became evident that it would be increasingly difficult to fill the vacancies caused by volunteering and the draft in order to carry on the work efficiently and accurately. With the prompt acquiescence of all the contributors, the work was transferred to Santa Barbara and a working agreement* was made with the Cottage Hospital, an admirable private institution supported by voluntary contributions. With Dr. Van Slyke's assistance a chemist was trained at San Francisco in the special technique required, and the laboratory here is now in good working order. Upon her journey here Miss Bertha Conboy, the dietitian-nurse from New York City Hospital, visited most of the prominent Metabolic Clinics in the East and Middle West. This department soon needed extra help and Miss Catudal, assistant dietitian, joined our force. She too visited several important Metabolic Clinics en route to Santa Barbara. We were extremely fortunate in securing the services of two competent,

*See pages 29, 30, 31, and 32.

well-trained clinical assistants, Dr. H. O. Koefod and Dr. J. J. O'Donnell,* both of them obliged to resign from war activities and to seek a favorable climate on account of their physical condition. We have been receiving patients in more than sufficient numbers for our limited force. They have been referred to us from physicians throughout the country and especially from those along this coast. We are studying and treating them in the same careful way as at the New York City Hospital, with the additional advantages of adequate accommodations for private as well as charity patients, and of a climate ideal for the treatment of sufferers from these three diseases. The limited space in the laboratory and diet kitchen in comparison with the rapidly increasing numbers of applications for admission to the service; the distance from centers for supplies and equipment; and difficulties inherent to war conditions are now the only stumbling blocks to our progress.

To make our work known among physicians on the Pacific Coast the director addressed, at Los Angeles, on November first, some two hundred and fifty members

*The latter resigned June 1st to assume charge of the practices of two well-known physicians of Los Angeles, who recently joined the M.O.R.C.

of the Los Angeles County Medical Society "Upon the Fasting Treatment of Diabetes;" on December seventh, the members of the association of Southern California Physicians upon "Pitfalls in the Diagnosis of Syphilis;" and on January twenty-sixth the director was the guest of honor and speaker before the California Academy of Medicine at San Francisco. The subject of this address was "Some Features of the Allen Cure." On April second he delivered an address upon "The Karell Cure Revived" before the California State Medical Society, at Del Monte.

Mention may here well be made of a patient, the mother of six children, referred to us by a local physician, who entered the clinic on the verge of coma, with an enormous carbuncle on her shoulder, 8% of sugar, and very marked acid poisoning. Two or three years ago we would have despaired of the utility of any treatment, but as a result of the modern revolutionary methods, guided by a few accurate laboratory tests, this woman within two weeks was sitting up in bed, eating sufficient food to satisfy her hunger, the urine was acid and sugar free, and the carbuncle almost healed—a truly marvelous result. She still reports occasionally and is actively engaged in caring for

her family, and has kept sugar and acid free most of the time since her discharge.

Another gratifying result was recently obtained in a boy of fourteen years, who for seven weeks had been under the care of specialists at a private hospital in one of the large cities. Although he had been subject to rigid and regular starvation and was taking daily but 35 grams of carbohydrates, this amount was increased about 700 per cent while under our observation.

A boy of three and a half has been a diabetic for over a year. His father, a clerk in a small bank, had exhausted his earnings and savings in the child's medical care and, discouraged by the hopeless outlook, finally brought the child to us. We have increased his carbohydrate tolerance more than 100% and he is still improving.

The wife of a retired army chaplain, recently referred to us by one of the local physicians, with the diagnosis of nephritis, was found after a week's hospital observation, to be suffering from arterio-sclerosis plus an infection of the bladder and secondarily of the kidney. She is improving and has been referred to a gynecologist for local treatment to institute proper drainage of the bladder.

For a Santa Barbara physician who,

during the past two years, has had constantly recurring exacerbations of acute nephritis all the modern functional tests of kidney function were made at the clinic and in our examination two important foci of infection were found. None of his many medical advisers had discovered these sources of kidney irritation. He has been referred to specialists for appropriate treatment.

The daughter of a widow occupying the position of secretary here was brought to us with the diagnosis of Bright's disease. She had been recently dropped from a nurses' training school in a neighboring town on this account. In her case the usual modern functional tests of the kidney and a careful examination showed that at least a part of her kidney infection depended upon a hidden and very severe involvement of tonsils. Since their removal she has improved marvelously and she is now hard at work, fitting herself for a secretary's position in war activity.

A small boy of very poor people from our so-called "Children's Tuberculosis Class", referred on account of his failures at school and evident malnutrition and with a diagnosis of tuberculosis, has finally been found to be suffering from a very slow, insidious and hidden infection

of one of the valves of the heart. He is in bed in our ward and will remain there for two or three months.

Although actually outside of the scope of our work, yet as a natural result of our establishment in this community we have begun at the Dispensary of the Cottage Hospital a careful investigation for the accurate diagnosis and proper modern treatment of a group of tuberculous children, selected by the Social Service Department, connected with the local schools. The children are carefully examined and specimens of blood from many of them have been sent to Dr. Zeiler, of Los Angeles, for Wassermann reactions. (Dr. Zeiler's courtesy in performing these serum examinations without charge is hereby gratefully acknowledged.) Already this plan has disclosed important results in the discovery of a latent syphilis existing in several of these children's families, although the children were supposed to be suffering from tuberculosis. One young girl, *e. g.*, had been kept from school for a year on account of a mild febrile temperature and because her father was reported to have a tuberculous knee. The positive Wassermann reaction showed that it was not her chest condition, but an inherited syphilis which was responsible for

her symptoms; and examinations of the bloods of her parents and of her brothers and sisters showed the existence of this dread disease in several members of her family. The importance of the early discovery and the prompt treatment of these two chronic diseases in such a community as Santa Barbara is self evident. The terrible ravages of tuberculosis in France since the war began, and the vigorous measures adopted by our allies and our army authorities, to discover the existence and minimize the spread of syphilis, have been so widely discussed in the public press that this minor departure from the actual purpose of our work seems more than justified at a time when all our spare energies must be directed toward the prosecution of this struggle for human betterment. The physicians of Santa Barbara and vicinity have been invited to attend these clinics and encouraged to recommend any of the poorer patients from their private or dispensary practice, who present clinical problems of difficulty in diagnosis and treatment.

Another feature of our work encouraging to those of us physically incapable of contributing to the medical side of war activity has been the physical examination of a few of the drafted men about whose

condition and capacity the local draft board has been in some doubt. Although this opportunity has thus far been very limited, we are hoping to be of more use in the future.

The unavoidable delays and interruptions in our progress have made it seem advisable to consider the first of our three years' work, for which contributions were donated, as ending July 1st, 1918, thus including all the previous months of preparation and organization, and the transfer of the unit to Santa Barbara. The expenses are so tabulated below.

It is only necessary to add a renewal of my thanks to the generous contributors of the funds for the privilege of starting and continuing, under such ideal conditions, this valuable work, and my appreciation of the enthusiastic, efficient industry of my staff, as well as my acknowledgment to the authorities and nurses of the Cottage Hospital for their courtesy and co-operation.* Respectfully submitted,

NATHANIEL BOWDITCH POTTER, M.D.,
July 1st, 1918. *Director.*

*Since this report was sent to the printer, three friends of the Director—Trustees of the Cottage Hospital—have very generously offered to build for his exclusive use a wing to the hospital especially designed to fill the requirements of modern metabolic work. Ground has been staked out and plans are rapidly being perfected to commence work.

REPORT OF ASSISTANT ATTENDING PHYSICIAN TO THE NEW YORK CITY HOSPITAL METABOLIC SERVICE.

After several months' delay due to the incidence of an epidemic of Infantile Paralysis in New York City, actual work in the metabolic ward at the City Hospital commenced on February 1, 1918. On account of the scarcity of chemicals and chemical apparatus, due to war conditions, it was impossible to take up the practical work outlined below until April.

The staff at this time consisted of a dietitian, chemist, and assistant attending physician, and on May first an assistant chemist was added. Five patients were selected from the general medical wards of the hospital, two diabetics and three nephritics, one of the latter complicated by gout. The ward accommodates 11 patients and is directly connected with the diet kitchen and chemical laboratory.

The diet kitchen was equipped with all the conveniences necessary for the preparation of the special diets peculiar to the various diseases.

The chemical laboratory was well

equipped with the essential apparatus. Dr. Van Slyke and Dr. Cullen were most helpful in the oversight of this equipment. Numerous articles and supplies were furnished by the Department of Public Charities.

To date 10 patients (four with diabetes, six with nephritis) have been accepted for treatment.

The first case of diabetes was admitted April 16th, 1917, with gangrene of the first toe and the side of one foot, and 6% sugar in the urine. He was made sugar and acid free and at the present time is taking 150 gms. of carbohydrate daily without the reappearance of sugar in the urine. His general condition is much improved and the foot is showing slow but steady improvement. The second case of diabetes was received from the surgical ward with an extensive area of gangrenous infection of the neck and back, 5% sugar in the urine; and his condition was considered hopeless by the attending surgeon. Upon a rigid diet and vaccine therapy the man recovered, is now going to the yard daily, and the abscess is nearly healed. Great credit is due the dietitian, who during the days when it seemed practically certain that the man would die, strove with every energy within her means to prepare food

in the most appetizing manner, this alone in my estimation, serving to turn the balance in his favor. The third case of diabetes was received also from the surgical ward with a gangrenous infection of an amputated stump. He was rendered sugar free in a short time, but complained bitterly of the treatment and sought discharge six days after admission. The fourth case of diabetes refused treatment shortly after admission and was discharged.

The first case of nephritis was complicated by chronic gout. This patient was admitted April 10th, 1917, and still remains in the ward, subject to periodical tests and appropriate treatment. The patient has improved clinically in many respects, for although the laboratory tests show little progress in the kidney condition he has had only one attack of gout since entrance. The second case of nephritis is still on the service. He has shown distinct clinical improvement in every way, so much so that he now serves in the capacity of an orderly in the ward. The third case of nephritis was referred to the Metabolic Ward for investigation from the service of Dr. Harlow Brooks. He remained eight days, but was so advanced a type of nephritis that he showed little improvement in this brief period of observation. Three

other cases of nephritis have been admitted, but each one, shortly after admission, refused to remain, complaining of the various tests necessary to examination and treatment. All the other patients have seemed contented with the change in their diet and routine and the rather rigid restrictions.

The assistant attending physician resigned to enter the Medical Reserve Corps so that from July 1st to Sept. 1st, 1917, when the ward was closed, the service was under the charge of Dr. W. H. Patterson. The ward has now been reopened and although no longer connected with "THE MEMORIAL LABORATORY and CLINIC" the equipment and supplies furnished by us, which were not transportable to Santa Barbara, are now being utilized and the launching of this very important branch of study and treatment for City Hospital patients as well as its permanent continuance, under the DEPARTMENT OF PUBLIC CHARITIES, may be properly credited to our beginning.

Respectfully submitted,

WILLIAM H. ORDWAY, JR., M.D.

July 1st, 1917.

REPORT OF CHIEF OF CLINIC.

Since the removal of the Memorial Laboratory and Clinic to Santa Barbara, there have been admitted to our service in the Cottage Hospital 20 patients suffering from diabetes and 9 from nephritis, with a total number of 823 days in the hospital. The average length of stay at the hospital for the diabetics has been 34.5 days and for the nephritics 14.7 days. The length of time consumed in rendering the diabetic patients sugar free has averaged 8 days. If two serious and complicated cases, one requiring 36 days and the other 24 days, are disregarded, the average drops to 5 days. Instead of strictly following the rules laid down in the so-called Allen cure for these diabetic patients, our usual procedure has been to prescribe a diet for the first day or two of approximately the same values as that which the patient has been taking before entrance; then to curtail this moderately until the patient has become sugar and acid free, during which time as a rule, the protein intake has been kept at one gram per kilo, and fats have been practically omitted, or at least very much diminished. The remainder of the stay in the hospital has been devoted to determining their tolerance and to instructing the patients how to estimate and prepare diets,

test their urine, etc., in order that they may intelligently care for themselves after leaving the clinic.

The son of a prominent physician of Southern California entered the hospital critically ill; the diabetes was severe and an advanced tuberculosis complicated the condition. With a moderate limitation in diet over 3 days, he became sugar free and remained so almost all of the remaining 55 days of his hospital residence. A rapidly spreading and generalized tuberculous process in the lungs, however, followed a pneumonia (probably a pneumococcus secondary infection) and although later he was able to withstand the journey home, he died a few days after his return. This is the only fatality; although several patients entered in a serious condition, notably one with severe acidosis and carbuncle, and another with a gangrenous appendicitis, complicated by a pneumonia and a dilated heart. All of our patients, excepting one, discharged for repeated disobedience of dietetic rules, have been followed through their own reports and letters from home, or reports from their physicians. For the most part they have remained sugar and acid free with but little difficulty and their general condition has continued to improve. Three of the five

children admitted have remained at Santa Barbara, and report from time to time. Although all three are severe cases, their improvement has been very gratifying.

Most of the nephritic cases have remained in the hospital only long enough to be subjected to the modern tests of kidney function; carefully examined for evidence of foci of infection; these eradicated when possible or their future removal advised; and general hygienic rules as well as detailed instructions outlined before discharge.

Under the supervision of the Director, work upon original problems bearing upon these two diseases has been started in the Clinic, the Laboratory and the Diet Kitchen.

Respectfully submitted

HILMAR O. KOEFOD,

July 1, 1918.

Chief of Clinic.

REPORT OF CHEMICAL LABORATORY JAN- UARY 1, 1917 TO JULY 1, 1918.

LOUIS PINE, PH. D., City Hospital, New York.

(1) Blood tests, quantitative:

Glucose	22
Non-protein N.....	22
CO ₂	37
Urea	14
Uric acid.....	8

(2) Urine tests, quantitative:

Acidity	8
Ammonia	13
Nitrogen	20
Sodium chloride	18

Urea	10
Phenolsulphonephthalein	12
Uric acid.....	6
(3) Preparation and standardization of solutions.	
(4) Preparation of creatinine.	
ELIZABETH C. PENNELL, M. S., Cottage Hospital, Santa Barbara, Cal.	
(1) Blood tests, quantitative:	
Glucose	99
Carbon dioxide.....	95
Urea	13
Non-protein N.....	18
Uric acid.....	8
(2) Urine tests, quantitative:	
Glucose	172
Urea	6
Sodium chloride.....	14
Total nitrogen.....	10
Albumen	32
Ammonia	3
(3) Urine tests, qualitative:	
Daily urines, routines.....	731
(4) Alveolar CO ₂	17
(5) Preparation and standardization of solutions.	
(6) Food Problems:	
Glucose in wines.....	11
Carbohydrate in cheese.....	12
Carbohydrate in sausage.....	1
Carbohydrate in vegetable waters.....	4
Carbohydrates in cocoa nibs.....	1
Carbohydrates in artificial cream.....	1
Carbohydrate in thrice cooked vegetables and bran.	2
Results of blood tests at Cottage Hospital, showing accuracy obtained:	
Method of Lewis and Benedict:	
Glucose	Duplicates
11/28/17	.118 .117
30	.107 .095
12/ 4	.181 .226
4	.101 .145
7	.117 .120
7	.105 .118
8	.126 .231
11	.122 .132
12	.280 .255
12	.132 .127
22	.137 .119
27	.148 .160
12/27/17	.165 .155
1/ 2/18	.170 .187

Glucose	Duplicates	
2	.132	.118
3/ 3	.129	.134
1/ 7/18	.205	.221
1/ 7/18	.119	.129
1/ 7/18	.123	.153
10	.127	.089
12	.125	.113
21	.087	.098
23	.104	.107
29	.057	.053
29	.112	.116
29	.249	.236
29	.115	.119
2/ 4	.114	.092
2/ 4	.137	.111
2/ 4	.171	.209
2/ 4	.099	.098
5	.236	.236
11	.112	
11	.185	
11	.197	.131
11	.082	.089
16	.197	.236
18	.184	.220
18	.189	.191
18	.081	.070
18	.104	.101
22	.188	.236
23	.161	.157
23	.180	.188
25	.139	.147
25	.118	.119
25	.169	.163
3/ 4	.053	.051
3/ 4	.165	.171
3/ 4	.161	.155
7	.096	.106
8	.169	.177
9	.140	.159
13	.155	.161
13	.126	.133
16	.110	.100
16	.186	.197
16	.093	
18	.155	.157
23	.151	.189
23	.119	.140
23	.153	.134
28	.237	.249

Glucose		Duplicates
30	.....	.254 .226
4/ 4	.....	.072 .079
4/ 4	.....	.280 .286
11	.....	.222 .194
4/23/18	.....	.222 .215
4/23/18	.....	.186
4/23/18	.....	.102 .094
4/23/18	.....	.104 .109
29	.....	.093 .084
5/ 6/18	.....	.074 .079
5/ 6/18	.....	.099 .117
11	.....	.114 .116
13	.....	.194 .194
13	.....	.205 .191
17	.....	.088 .082
27	.....	.095 .085
29	.....	.117 .189
31	.....	.208 .214
6/ 3	.....	.166 .155
6/ 3	.....	.232 .212
18	.....	.126 .121

Method of Van Slyke:

CO ₂		Duplicates
12/ 4/17	.....	.47.7 45.5
4	.....	.60.0 63.8
7	.....	.48.31 50.49
7	.....	.44.02 46.58
8	.....	.51.3 53.6
11	.....	.49.12 49.12
12	.....	.31.33 32.43
12	.....	.46.
17	.....	.39.26
19	.....	.54.08 50.43
19	.....	.48.74 45.94
19	.....	.48.68 43.00
12/22/17	.....	.50.10 47.01
27	.....	.45.61 44.61
27	.....	.46.64 51.50
1/ 2/18	.....	.53.85 52.86
1/ 2/18	.....	.44.4 42.49
3	.....	.45.66 49.88
7	.....	.41.14 41.20
7	.....	.39.69 37.20
7	.....	.39.69 37.78
10	.....	.50.96
12	.....	.46.49 48.40
21	.....	.50.60 46.45
21	.....	.40.67

CO2		Duplicates
21	.....	28.88 31.31
21	.....	40.64 41.78
23	.....	49.88 50.93
299	.....	41.74 43.81
299	.....	43.02 44.33
299	.....	32.61 31.21
299	.....	41.12 40.97
2 /4	.....	45.61 45.06
4	.....	41.13 39.63
4	.....	43.98 45.91
4	.....	44.10 41.68
4	.....	31.98 34.81
11	.....	56.27 54.88
11	.....	55.30 53.58
11	.....	49.32 46.48
16	.....	53.12 53.40
18	.....	57.60 57.33
18	.....	45.99 51.13
18	.....	63.74 64.45
22	.....	55.59 52.74
23	.....	38.35 54.60
23	.....	63.00 62.46
25	.....	54.39 53.37
25	.....	59.94 58.18
26	.....	56.75 57.21
3 /1	.....	63.
4	.....	52.98 52.54
4	.....	63.68 63.29
8	.....	56.44 57.84
9	.....	59.96 59.78
13	.....	58.25 57.65
16	.....	50.08 53.91
16	.....	52.50 51.66
16	.....	51.76 53.64
18	.....	56.07 53.68
23	.....	54.25
23	.....	52.31 48.14
23	.....	59.14 61.97
28	.....	55.18 53.80
3/30/18	.....	49.78 51.58
4/ 4	.....	56.42 53.06
11	.....	55.32 57.83
23	.....	59.85 59.87
23	.....	63.49 63.99
23	.....	57.43 57.52
23	.....	66.63 64.71
29	.....	59.72 59.09
5/ 6	.....	66.35 66.24
6	.....	68.20 68.22
11	.....	60.60 59.81

CO ₂		Duplicates
13	.....	66.99 66.29
13	.....	65.03 63.29
13	.....	59.92 59.97
14	.....	51.27 50.48
17	.....	34.13 33.29
27	.....	57.06 55.04
29	.....	57.25 56.12
31	.....	54.99 56.75
31	.....	53.16 52.22
6/ 3	.....	56.56 57.57
18	.....	60.97 61.94
18	.....	47.94 50.68
22	.....	30.82 31.78

FOOD ANALYSIS

(1) Reducing sugars in Wines.

Benedict's method:

Hochheimer	.....	.28%
Deinhard-Berncastler	.....	.31%
Riesling	.....	.33%
Johannisburger	.....	.11%
Niersteiner	.....	.01%

Fehling's—

California Moselle "Vista del Valle."

Benedict's method03%

(a) Moselle, by acid conversion and gravimetric, Fehling's method:

From bottle	.....	.052%
From cask	.....	.035%

(b) Moselle, by Benedict's volumetric method:

From bottle	.....	.018%
From cask	.....	.035%

California Sauterne, "Topazor," by acid conversion and gravimetric Fehling

method109%

(2) Carbohydrate in vegetable water. 100 gms cauliflower boiled 15 minutes in 2000 cc. water. Determination made by acid conversion and Fehling's volumetric method.

1st. water contained	.500 gm. carbohydrate
2nd. " "	.119 gm. "
3rd. " "	.034 gm. "
4th. " "	.025 gm. "

(3) Carbohydrate in sausage purchased in Santa Barbara.

Mayrhofer's method.....negative
Acid conversion methodnegative

- (4) Reducing sugar in cottage cheese, expressed as glucose.

Benedict's method: Cheese made in diet kitchen.

	From top ½ milk	From cream	Skim milk
1. Day of making	2.00%		2.15%
1st day after making	2.12%		
2. Day of making		2.27%	
1st day after making	1.49%	1.98%	
2nd day after making	1.63%	2.10%	
3. Day of making		1.98%	
1st day after making		2.24%	
2nd day after making		2.13%	
(5) Eastern American cheese, Morton's Grocery, Santa Barbara—Benedict method...			.03% sugar
(6) Carbohydrate in artificial cream, expressed as glucose—Fehling's gravimetric, method of De- fren and O'Sullivan.....			.143%
(7) Carbohydrate in cocoa made from nibs, above method			.41%
(8) Carbohydrate in thrice cooked vegetables and bran: Vegetables and bran for ¼ day (beet tops 125 gm., leeks 50, cauliflower 125, and three bran biscuits) ground, cooked and strained and carbohydrate determined by acid conversion and gravimetric Fehling's method. Vegetables and bran for one day cooked at a patient's home.....			2.91 gm. glucose
Vegetables and bran for one day cooked in diet kitchen			2.34 gm.

The above report has aimed to give some idea of the amount of laboratory work done at the Memorial Laboratory and Clinic in New York and in Santa Barbara. At Santa Barbara a month's time was consumed in equipping the laboratory and preparing the solutions. The laboratory is shared with the hospital, and part of the apparatus, such as the sterilizer and incubator and still, belongs to the Cottage Hos-

pital. That belonging to the Foundation is complete for doing all the blood and urine work required on diabetic and nephritic patients.

Signed:

ELIZABETTA C. PENNELL.

July 1, 1918.

REPORT OF DIETITIAN.

The opening of the Metabolic Ward at the New York City Hospital was of special interest and significance as being the first of its kind in connection with one of the large hospitals under the Department of Charities in New York City. Special work of this kind has heretofore been carried on only in private institutions or through such channels as the hospital of the Rockefeller Institute, where I received my training for this dietetic work. It is extremely difficult to persuade the class of patients received in a public institution that the details of modern treatment are of the utmost importance if their efficiency is to be restored and maintained, and their capacity for self-support is to be continued. People of this intellectual calibre readily resent as an abuse the rigid fasting cure in diabetes and Bright's disease, and it will require a long and patient educational campaign if these cures are to have wide-

spread results, as has been required in the fight against tuberculosis. As diabetes and Bright's disease are among the commonest diseases, this movement for treatment and for education should be instituted as rapidly as possible in all public hospitals.

In preparing for the transfer of the work to the Pacific Coast and for the organization of my department there, I visited for observation the Massachusetts General Hospital, Peter Bent Brigham Hospital, and Dr. Joslin's Clinic in Boston; Johns Hopkins Hospital in Baltimore; Dr. William's Clinic in Rochester, New York; and Dr. Woodyatt's Clinic in Chicago; in addition to all the prominent Clinics in New York City, where accurate metabolic work is conducted.

At the end of nine months of work at the Cottage Hospital, it is no exaggeration to say that there is no Clinic in this country where work is being carried on in a more intensive and thorough fashion and with more gratifying results than that which is being done in the Memorial Laboratory and Clinic at Santa Barbara.

BERTHA A. CONBOY,

July 1, 1918.

Dietitian.

THE DONATIONS TO AND EXPENSES OF THE MEMORIAL LABORATORY AND CLINIC, SANTA BARBARA, CALIFORNIA, JULY 1, 1918.

RECEIPTS

Donations for first year's work.	\$16,248.00
Interest	520.00
Total.....	\$16,768.00

DISBURSEMENTS

Total expense including transfer from New
York City Hospital to the Cottage Hos-
pital at Santa Barbara, California:

Chemical Laboratory	\$ 2,827.04
Clinic and Biological Laboratory	2,346.39
Diet-Kitchen	1,479.04
Administration	2,148.39
Library	593.80
Director's Expenses	404.00
Transportation, etc.	276.01
Unfilled orders, Apparatus, Sup- plies, etc., for second year's work	6,475.00
Balance on hand for second year's work	218.33
Total.....	\$16,768.00

AGREEMENT.

BETWEEN THE TRUSTEES OF THE COTTAGE HOSPITAL OF SANTA BARBARA, CALIFORNIA, AND DR. NATHANIEL BOWDITCH POTTER, DIRECTOR OF THE MEMORIAL LABORATORY AND CLINIC FOR THE STUDY AND TREATMENT OF NEPHRITIS, GOUT AND DIABETES.

To continue at the Cottage Hospital in Santa Barbara the careful investigation and treatment of patients suffering from Gout, Nephritis, Diabetes and allied diseases, started at the New York City Hospital, New York. It is agreed by both parties as follows:

1. The Cottage Hospital will furnish—
 - (a) The use of private rooms at the usual prices to the private patients plus the extra cost of special diets.
 - (b) Two wards, one of three and another of two beds for patients, (residents of Santa Barbara) without means or with limited means. It being understood that the patients in these two wards are to pay the hospital whatever proportion of the usual fee is within their means; that, when these beds are not occupied by Dr. Potter's patients, they are to be available for the use of general hospital patients and that non-residents of Santa Barbara will be expected to pay the hospital the

usual ward fee without regard to their means.

- (c) A diet kitchen with a gas cooking stove, hot and cold water, appropriate shelving, closets and ice box, ordinary utensils and dishes for preparing, measuring and cooking the diets prescribed; ice, and the simpler food supplies in market in season. It being understood that Dr. Potter will provide such special utensils and dishes as his work may require.
- (d) Toilet, with two closets, one for male and the other for female patients.
- (e) Nursing service to assist in the operation of this so-called "Metabolic Unit," to consist of not less than one night and one day nurse. It being understood that the Metabolic Unit is to be furnished one nurse for each three patients upon the service.
- (f) The use of the equipment of the hospital laboratory and sufficient laboratory space for the necessary work entailed in this investigation by a chemist and assistant chemist and clinical assistants and for the extra apparatus supplied therefor by Dr. Potter. It being understood that Dr. Potter will furnish and keep apart his apparatus and all such special chemicals as are required for his work.
- (g) Minor changes and repairs in the laboratory, such as the installation of a chemical hood to carry away

fumes, and some readjustment of shelving, etc.

(h) Heat and light and the customary cleaning service for wards, kitchen and laboratory. It being agreed that Dr. Potter will defray half the wages of one maid for service in the diet kitchen and that the Cottage Hospital will defray the other half as well as her board and lodging.

(i) Hospital charts and the simpler drugs and medicines just as ordinarily furnished patients in the hospital but subject to the regular charges.

(j) Meals for the dietitian-nurse and luncheon for the assistant dietitian-nurse, chemist and assistant attached to the unit.

2. Dr. Potter will furnish and pay—

(a) A dietitian-nurse and an assistant dietitian-nurse, who shall have charge and control over the patients admitted to the "Metabolic Unit" and direct the work of the Cottage Hospital nurses attached thereto. It being expressly understood that these dietitians' authority over both patients and nurses is under the direct supervision and control of the hospital training-school's superintendent. It being also understood that the expense of living-rooms outside the hospital for these dietitian-nurses will be deferred by Dr. Potter.

(b) A chemist, assistant chemist and clinical assistants who shall have

charge of the chemical, biological and clinical laboratory work essential to the purpose of this unit. It being agreed that Dr. Potter will defray half the salary of the hospital's laboratory technician in return for half such technician's working time, as well as through his assistants supervise in general her work; and that the Cottage Hospital will defray the other half of her salary as well as furnish her luncheons.

3. Dr. Potter will supply:

- (d) Extra laboratory equipment, special instruments, chemicals and supplies essential to his chemical, biological and clinical investigations.
- (e) All extra and expensive foods, drugs, etc., required which are not commonly furnished by the hospital.
- (f) Extra charts and special stationery required for this type of work.
- (g) The medical supervision of these patients.

THIS AGREEMENT to be renewed July 1, 1919, at the pleasure of both parties.

For the convenience of this combination and to avoid any possible friction, all questions arising in connection with this work may be referred to a committee consisting of Mr. Campbell, Mr. Pritchett and Dr. Potter, or a representative designated by each.

It is with deepest sorrow that we record the death in Los Angeles, on October 16, of Dr. O'Donnell, whose never-failing cheerfulness, loyalty, charm and industry endeared him in a peculiar way to his co-workers, and helped to make the difficult months of organization at the Clinic a period of large effort undertaken in the spirit of cooperation and gladness. Among the patients, he came to be known by the name conferred upon him by one of our youngest children, who invariably asked for "the Doctor with a Smile."

Dr. O'Donnell's duty called him to the care of many cases of "Spanish Influenza," to which he himself soon became a victim.

It is with true affection and the conviction that "no work begun shall ever pause for death," that we measure the fine and continuing results of Dr. O'Donnell's short career, especially during this period of history, when short careers so commonly are great ones.



COTTAGE HOSPITAL, SANTA BARBARA, CALIFORNIA

"If you can force your heart and nerve and sinew
To serve your turn long after they are gone,
And so hold on when there is nothing in you
Except the WILL which says to them:
"Hold on!"

—Kipling.

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